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EXAMINER	
MATTIS, JASON E	

ART UNIT	PAPER NUMBER
2665	12

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/600,698	KOSTER ET AL.	
	Examiner	Art Unit	
	Jason E Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 13 April 2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the Applicants' amendment B filed on 4/13/04. In amendment B, claims 1-8 and 11 have been amended and new claims 12-14 have been added. Claims 1-14 are currently pending in the application.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 states, "A first exchange in a network comprising first and second neighboring exchanges". It is unclear from the quoted parts of the claims what is included in the claimed network. For example, it is unclear whether the first and second neighboring exchanges are the claimed "a first exchange" and a "second neighboring exchange" or whether they are two neighboring exchanges that both neighbor the claimed "a first exchange". For the purposes of this examination it will be assumed that "a first exchange" is the same as the "first...neighboring exchange" and that the "second neighboring exchange" neighbors the "first exchange".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 7-8, 11, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Pajuvirta et al. (U.S. Pat. 5970048).

With respect to claim 1, Pajuvirta et al. discloses a method for overload protection for an exchange **(See the abstract of Pajuvirta et al. for reference to a method for congestion management in the nodes, or exchanges, of a frame relay network)**. Pajuvirta et al. also discloses determining at a first exchange a congestion value indicative of a level of overload congestion at the first exchange **(See column 5 lines 30-44, column 5 line 63 to column 6 line 8, and Figure 4 of Pajuvirta et al. for reference to a network node, or first exchange, one of nodes N1, N2, N3, and N4, determining a congestion value when a buffer at the node exceeds a fill rate threshold and for reference to the congestion values having three different degrees of severity or levels of overload congestion)**. Pajuvirta et al. further discloses transferring the congestion value to a second exchange neighboring the first exchange **(See column 5 lines 30-44 and Figure 4 of Pajuvirta et al. for reference to**

node N1, first exchange, transmitting a congestion notification to subscriber node N2, a second neighboring exchange). Pajuvirta et al. also discloses computing at the second exchange an effective congestion value based on a plurality of the congestion values received from the first exchange **(See column 5 lines 45-62 and Figure 4 of Pajuvirta et al. for reference to computing a congestion value at the subscriber node, second exchange, a congestion value that corresponds to the most severe congestion notification of a plurality of congestion notifications received from the network node, first exchange, during a respective time interval)**. Pajuvirta et al. further discloses controlling a protective measure for the second exchange with respect to the first exchange based on the effective congestion value **(See column 5 lines 45-62 of Pajuvirta et al. for reference to adjusting the height of a "flood gate" that determines the emptying rate of a buffer according to the computed effective congestion level at the subscriber node N2, second exchange)**.

With respect to claim 7, Pajuvirta et al. discloses updating, upon reception of a new congestion value, a current effective congestion value utilizing a previous effective congestion value and the received new congestion value **(See column 6 lines 9-42 and Figures 5a and 5b of Pajuvirta et al. for reference to an example of how the method of Pajuvirta computes a new congestion value based on the current congestion value each time a new congestion value is received, for example, if the received new congestion value has a higher severity than the previous**

current congestion value, the new effective congestion value is updated to reflect the higher severity of the received new congestion value).

With respect to claim 8, Pajuvirta et al. discloses that the step of computing an effective congestion value comprises computing an effective congestion value only when a congestion has been established with the congestion being established when at least one positive congestion value has been received at the second exchange within a definite past time frame **(See column 5 lines 30-62 of Pajuvirta et al. for reference to congestion value only being sent from a network node to a subscriber node when a congestion is detected in the network node meaning that if no congestion value is sent then there is no computing of a new congestion value if there is no current existing congestion value, so that effective congestion values are only computed when a congestion has been established).**

With respect to claim 11, Pajuvirta et al. discloses mapping the effective congestion value onto a protection control value and that the step of controlling a protective measure for the second exchange includes utilizing the protection control value **(See column 5 line 30 to column 7 line 14 of Pajuvirta et al. for reference to the congestion levels received by the subscriber nodes, second exchange, being mapped onto a change in bandwidth percentage value, and for reference to this change in percentage value being used in a protection measure to change the rate at which the subscriber transmits data from its buffer to the network node).**

With respect to claim 13, Pajuvirta et al. discloses a first and second neighboring exchanges in a network **(See column 5 lines 30-44 and Figure 4 of**

Pajuvirta et al. for reference to a network with nodes, or exchanges, including a first node N2 and a neighboring second node N1). Pajuvirta et al. also discloses the first exchange comprising a means for receiving from the second exchange a congestion value indicative of a level of an overload congestion at the second exchange **(See column 5 lines 30-44 and column 5 line 63 to column 6 line 8 of Pajuvirta et al. for reference to node N2, a first exchange, having a congestion notification transmitted to it from node N1, a first exchange and for reference to the congestion value indicating a degree, or level, of congestion severity, meaning that there must be a means in node N2 for receiving the transmitted congestion notification)**. Pajuvirta et al. further discloses the first exchange comprising a means for computing an effective congestion value based on a plurality of successive congestion values received from the second exchange **(See column 5 lines 45-62 and Figure 4 of Pajuvirta et al. for reference to computing a congestion value at the subscriber node N2, first exchange, a congestion value that corresponds to the most severe congestion notification of a plurality of congestion notifications received from the network node N1, second exchange, during a respective time interval)**. Pajuvirta et al. also discloses a means for controlling a protective measure for the first exchange with respect to the second exchange based on the effective congestion value **(See column 5 lines 45-62 of Pajuvirta et al. for reference to adjusting the height of a "flood gate" that determines the emptying rate of a buffer according to the computed effective congestion level at the subscriber node N2, first exchange)**.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pajuvirta et al. in view of Kim et al. (U.S. Pat. 5946296).

With respect to claim 2, Pajuvirta et al. does not disclose transferring the congestion value to the second exchange in a call processing message.

With respect to claim 9, Pajuvirta et al. does not disclose the congestion value being related to an ACL value in accordance with an ACC standard.

Kim et al., in the field of communications, discloses transferring the overload congestion value, an automatic congestion level, in a call processing message, a call release message **(See the abstract of Kim et al. for reference to receiving the overload congestion value in a call release message)**. Kim et al. also discloses the congestion value being related to an ACL value in accordance with an ACC standard **(See the abstract of Kim et al. for reference to the congestion value being related to an ACL value)**. Using a call processing message to transmit a congestion value and using the ACL value to calculate the congestion value has the advantage being able to implement the congestion control system within a currently used standard.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Kim et al., to combine the use of a call processing message to transmit a congestion value and an ACL value to calculate the congestion value with the congestion control method of Pajuvirta et al., with the motivation being to be able to implement a congestion control system within a currently used standard.

With respect to claim 12, Pajuvirta et al. discloses assigning a congestion value of zero to a call processing message if the call processing message is received without a congestion value and using the zero value when computing the effective congestion value **(See column 5 lines 45-62 of Pajuvirta et al. for reference to interpreting not receiving a congestion value to mean that zero congestion is in the network node and for reference to using this zero congestion value to compute a next degree of congestion severity level, or congestion value)**.

7. Claims 3-6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pajuvirta et al. in view of Koga et al. (U.S. Pat. 5963541).

With respect to claim 3, Pajuvirta et al. does not disclose computing an average congestion value upon expiration of a definite time interval using the congestion values received during the definite time interval. Pajuvirta et al. also does not disclose using the average congestion value to calculate the current effective congestion level.

With respect to claim 4, Pajuvirta et al. does not disclose computing, upon expiration of a time interval, a current effective congestion value with the aid of an

average congestion value determined from the congestion values received within the time interval and an effective congestion value that was computed at the end of an immediately preceding time interval.

Koga et al., in the field of communications, discloses computing an average congestion value upon expiration of a definite time interval using the congestion values received during the definite time interval **(See column 20 lines 42-48 and Figure 16B of Koga et al. for reference to forming an average congestion value at the end of a sampling period T)**. Koga et al. also discloses using the average congestion value to calculate the current effective congestion level **(See column 21 lines 6-24 and Figure 17 of Koga et al. for reference to using the average congestion value to calculate the current effective congestion level)**. Koga et al. further discloses computing, upon expiration of a time interval, a current effective congestion value, Y(s), with the aid of an average congestion value, X(s), determined from the congestion values received within the time interval and an effective congestion value that was computed at the end of an immediately preceding time interval, Y(s-1) **(See column 20 line 21 to column 21 line 24 and Figure 17 of Koga et al. for reference to calculating a congestion value Y(s) with the aid of an average congestion value X(s) and the previous congestion value Y(s-1))**. Using average congestion values and previous congestion values to calculate current congestion values has the advantage of providing a smooth response to control congestion, which eliminates high fluctuations in the amount of congestion control provided.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Koga et al., to combine the use of average and previous congestion values to calculate the current congestion value with the congestion control method of Pajuvirta et al., with the motivation being to provide a smooth response to control congestion, which eliminates high fluctuations in the amount of congest control provided.

With respect to claim 5, Pajuvirta et al. does not disclose determining a plurality of time-interval-related average congestion values from the congestion values that are received during a plurality of consecutive time intervals. Pajuvirta et al. also does not disclose weighting the plurality of average congestion values and summing the plurality of weighted average congestion values over a time frame producing a summed weighted average.

Koga et al., in the field of communications, determining a plurality of time-interval-related average congestion values from the congestion values that are received during a plurality of consecutive time intervals **(See column 20 line 21 to column 21 line 24 and Figure 17 of Koga et al. for reference to calculating an average value Y(s) with the aid of an average congestion value X(s) and the previous congestion value Y(s-1))**. Koga et al. also discloses weighting the average values and adding the weighted values over a time frame producing a summed weighted average **(See column 20 lines 21-41 of Koga et al. for reference to weighting ratio alpha used to weight current and previous average values which are added to form a new average value)**. Using a weighted average value has the advantage of providing a

smooth response to control congestion, which eliminates high fluctuations in the amount of congestion control provided.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Koga et al., to combine the use of a weighted average of current and previous average values to calculate the current congestion value with the congestion control system of Pajuvirta et al., with the motivation being to provide a smooth response to control congestion, which eliminates high fluctuations in the amount of congest control provided.

With respect to claim 6, Pajuvirta et al. discloses forming an effective congestion value which is elevated by a specific first value relative to the last effective congestion value when the congestion value is greater than a specific first threshold value **(See column 6 lines 9-35 of Pajuvirta et al. for reference to raising a congestion value, degree of severity, when the new received value is above a threshold of the previously received congestion value)**. Pajuvirta et al. also discloses forming an effective congestion value which is reduced by a specific second value relative to the last effective congestion value when the congestion value is less than a specific second threshold value **(See column 6 lines 9-35 of Pajuvirta et al. for reference to lowering a congestion value when a new received congestion value is of lower severity in a new time period)**. Pajuvirta et al. does not disclose using a last effective congestion value and an average congestion value of congestion values received within an immediately preceding time interval.

Koga et al., in the field of communications discloses using a last effective congestion value and an average congestion value of congestion values received within an immediately preceding time interval **(See column 20 line 21 to column 21 line 24 and Figure 17 of Koga et al. for reference to calculating an average congestion value Y(s) with the aid of an average congestion value X(s) and the previous congestion value Y(s-1))**. Using average congestion values and previous congestion values to calculate current congestion values has the advantage of providing a smooth response to control congestion, which eliminates high fluctuations in the amount of congestion control provided.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Koga et al., to combine the use of average and previous congestion values to calculate the current congestion value with the congestion control method of Pajuvirta et al., with the motivation being to provide a smooth response to control congestion, which eliminates high fluctuations in the amount of congest control provided.

With respect to claim 14, Pajuvirta et al. does not disclose a means for computing an average congestion value of a plurality of the congestion values received from the second exchange during a time interval and a means for using the average congestion value to calculate the effective congestion value.

Koga et al., in the field of communications discloses computing an average congestion value of a plurality of the congestion values received from the second exchange during a time interval and a means for using the average congestion value to

calculate the effective congestion value **(See column 20 line 21 to column 21 line 24 and Figure 17 of Koga et al. for reference to calculating an average congestion value Y(s) with the aid of an average congestion value X(s) and the previous congestion value Y(s-1) and for reference to using the calculated average congestion values to calculate an effective congestion value)**. Using average congestion values and previous congestion values to calculate current congestion values has the advantage of providing a smooth response to control congestion, which eliminates high fluctuations in the amount of congestion control provided.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Koga et al., to combine the use of average and previous congestion values to calculate the current congestion value with the congestion control system of Pajuvirta et al., with the motivation being to provide a smooth response to control congestion, which eliminates high fluctuations in the amount of congest control provided.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pajuvirta et al. in view of Otsuka et al. (U.S. Pat. 6038210).

With respect to claim 10, Pajuvirta et al. does not disclose that the protective measure comprises a measure selected from the group consisting of denial of call and an alternate routing of calls.

Otsuka et al., in the field of communications, discloses a congestion control method that includes a denial of call as a protective measure in response to receiving a

congestion indication message **(See column 6 lines 26-55 of Otsuka et al. for reference to inhibiting signal links, denying calls, to a congested signaling point)**. Denying calls to a congested exchange has the advantage of making sure that no addition data is sent to an exchange that cannot handle any more data thereby preventing the loss of additional data due to a buffer overflow in the congested exchange.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Otsuka et al., to combine denying calls to a congested exchange, as suggested by Otsuka et al., with the congestion control method of Pajuvirta et al., with the motivation being to make sure that no addition data is sent to an exchange that cannot handle any more data thereby preventing the loss of additional data due to a buffer overflow in the congested exchange.

Response to Arguments

9. The amendments made to independent claim 1 necessitated a rejection under new grounds. The rejections to claim 1 and the claims that depend on claim 1 now are made with Pajuvirta et al. cited as the main reference instead of the previously cited Otsuka et al.

10. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (703) 305-8702. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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